Welcome to the Issue 365 of the CSS E-letter, available here. To submit new articles, visit article submissions on the E-letter website. To unsubscribe, please send me an email at ahmad.taha@utsa.edu with the subject line Unsubscribe.

The next CSS E-Letter will be mailed out at the beginning of February 2019.

Contents

1. IEEE CSS Headlines
   1.1 CSS Social Media Accounts
   1.2 CSS Technically Cosponsored Events
   1.3 IEEE Control Systems Letters
   1.4 IEEE Transactions on Control Systems Technology
   1.5 IEEE Transactions on Automatic Control
   1.6 IEEE Control Systems Society Publications Content Digest

2. Miscellaneous
   2.1 Software Release: MORLAB 4.0
   2.2 PhD Course on Multi-Agent Distributed Optimization and Learning over Wireless Networks
   2.3 Graduate School on Model Reduction, Imperial College London, UK

3. Books
   3.1 Classical and Modern Controls with Microcontrollers
   3.2 Deep Learning and Missing Data in Engineering Systems
   3.3 Optimal Impulsive Control

4. Journals
   4.1 Content: Mathematics of Control, Signals, and Systems (MCSS)
   4.2 Content: Asian Journal of Control
   4.3 Content: Proceedings of the Institute of Applied Mathematics
   4.4 Content: International Journal of Applied Mathematics and Computer Science
   4.5 Content: International Journal of Control, Automation, and Systems
   4.6 CFP: IEEE/CAA Journal of Automatica Sinica, Special Issue on Time Series Classification
   4.7 CFP: IEEE Control Systems Letters with CDC
   4.8 CFP: Journal Mathematics of Control, Signals, and Systems
   4.9 CFP: Special Issue on Learning From Adaptive Control Under Relaxed Excitation Conditions

5. Conferences
   5.1 ACM e-Energy’19
   5.2 Mediterranean Conference on Control & Automation
   5.3 International Conference on Methods and Models in Automation and Robotics
5.4 IFAC/CACHE Conference on Foundations of Systems Biology in Engineering
5.5 International Conference on System Theory, Control and Computing
5.6 Quantum Science, Engineering and Technology Conference
5.7 International Conference on Control, Automation and Systems
5.8 International Symposium on Autonomous Systems
5.9 International Conference of Intelligent Unmanned System

6. Positions

6.1 PhD: University of Bath, UK
6.2 PhD: University of Lorraine, France
6.3 PhD: University of Leicester, UK
6.4 PhD: University of Leicester, UK
6.5 PhD: PhD position at TU Berlin, Germany
6.6 PhD: Imperial College London, UK
6.7 PhD: Clemson University, USA
6.8 Postdoc: University of Texas at Austin, USA
6.9 Postdoc: Westlake University, China
6.10 Postdoc: University of California in Santa Cruz, California, USA
6.11 Postdoc: TU Berlin, Germany
6.12 Postdoc: Sydney University, Australia
6.13 Postdoc: University of Michigan, USA
6.14 Postdoc: University of Kansas, USA
6.15 Research Engineer: Scania, Sweden
6.16 Research Scientist: University of Michigan, USA
6.17 Faculty: University of Twente, Enschede, The Netherlands
6.18 Faculty: Texas A&M University, USA
6.19 Faculty: University of Oxford, UK
6.20 Faculty: KTH Royal Institute of Technology, Sweden
6.21 Faculty: Australian National University, Canberra, Australia
1 IEEE CSS Headlines

1.1. CSS Social Media Accounts
Contributed by: Ahmad Taha, ahmad.taha@utsa.edu

Follow us on Twitter https://twitter.com/CSSIDEEE
Like us on Facebook https://facebook.com/CSSIDEEE/

1.2. CSS Technically Cosponsored Events
Contributed by: Luca Zaccarian, CSS AE Conferences, zaccarian@laas.fr

The following items have been recently included in the list of events technically cosponsored by the IEEE Control Systems Society:

For a full listing of CSS technically cosponsored conferences, please visit http://ieeecss.org/conferences/technically-cosponsored. For a list of the upcoming and past CSS main conferences please visit http://ieeecss.org/conferences.

1.3. IEEE Control Systems Letters
Contributed by: Francesca Bettini, bettini@dei.unipd.it

Table of Contents
IEEE Control Systems Letters
Volume 3 (2019), Issue 1 (January)


Papers
-Joint-Space Impedance Control Using Intrinsic Parameters of Compliant Actuators and Inner Sliding Mode Torque Loop, G. Garofalo, A. Werner, F. Loeffl, and C. Ott - p. 1
- Full-Complexity Characterization of Control-Invariant Domains for Systems With Uncertain Parameter Dependence, A. Gupta and P. Falcone - p. 19
- Output Feedback Control via Bisimulation of Stochastic Linear Systems, G. Pola, C. Manes, and M. D. Di Benedetto - p. 25
- Encrypted Cooperative Control Based on Structured Feedback, M. S. Darup, A. Redder, and D. E. Quevedo - p. 37
- On the Exponential Stability of Primal-Dual Gradient Dynamics, G. Qu and N. Li - p. 43
- Convex Bounds for Equation Error in Stable Nonlinear Identification, J. Umenberger and I. R. Manchester - p. 73
- Solution of Time-Variant Fractional Differential Equations With a Generalized Peano–Baker Series, M. Eckert, K. Nagatou, F. Rey, O. Stark, and S. Hohmann - p. 79
- A Rank-Preserving Generalized Matrix Inverse for Consistency With Respect to Similarity, J. Uhlmann - p. 91
- Control Barrier Functions for Signal Temporal Logic Tasks, L. Lindemann and D. V. Dimarogonas - p. 96
- Inverse Free Kalman Filter Using Approximate Inverse of Diagonally Dominant Matrices, K. S. Babu and K. Detroja - p. 120
- Resilient Multi-Agent Consensus Using Wi-Fi Signals, S. Gil, C. Baykal, and D. Rus - p. 126
- Average-Consensus Tracking of Sensor Network via Distributed Coordination Control of Heterogeneous Multi-Agent Systems, M. Zheng, C.-L. Liu, and F. Liu - p. 132
- Dynamic Relations in Sampled Processes, T. T. Georgiou and A. Lindquist - p. 144
- Terrain Following for Fixed-Wing Unmanned Aerial Vehicles Using Feedback Equivalence, P. Kyriakis and G. Moustris - p. 150
- Sensitivity Analysis of Cascaded Quantum Feedback Amplifier, Y. Yokotera and N. Yamamoto - p. 156
- Stability and Well-Posedness of a Nonlinear Railway Track Model, M. S. Edalatzadeh and K. A. Morris - p. 162
1.4. IEEE Transactions on Control Systems Technology
Contributed by: Michelle Colasanti, ieeeetcst@osu.edu

Table of Contents
IEEE Transactions on Control Systems Technology
Volume 27 (2019), Issue 1 (January)

Regular Papers
- Probabilistic Anticipation and Control in Autonomous Car Following, N. Wan, C. Zhang, and A. Vahidi, page 30
- Event-Triggered Finite-Time Integral Sliding Mode Controller for Consensus-Based Formation of Multi-robot Systems With Disturbances, R. Ravindranathan Nair, L. Behera, and S. Kumar, page 39
- Full-State Tracking Control for Flexible Joint Robots With Singular Perturbation Techniques, J. Kim and E. A. Croft, page 63
- Relative Heading Estimation and Its Application in Target Handoff in GPS-Denied Environments, H. Bai and R. W. Beard, page 74
- Incipient Fault Detection for Multiphase Batch Processes With Limited Batches, S. Zhang, C. Zhao, and F. Gao, page 103
- Robust Output Feedback Tracking Control for Inertially Stabilized Platforms With Matched and Unmatched Uncertainties, A. Safa and R. Yazdanpanah Abdolmalaki, page 118
- Uncertainty Constrained Robotic Exploration: An Integrated Exploration Planner, A. Ivanov and M. Campbell, page 146
- Port-Controlled Phasor Hamiltonian Modeling and IDA-PBC Control of Solid-State Transformer, R. V. Meshram, M. Bhagwat, S. Khade, S. R. Wagh, A. M. Stankovic, and N. M. Singh, page 161
- Data-Driven Robust Taxi Dispatch Under Demand Uncertainties, F. Miao, S. Han, S. Lin, Q. Wang, J. A. Stankovic, A. Hendawi, D. Zhang, T. He, and G. J. Pappas, page 175
- Circular Formation Control of Multiple Unicycle-Type Agents With Nonidentical Constant Speeds, Z. Sun, H. G. de Marina, G. S. Seyboth, B. D. O. Anderson, and C. Yu, page 192
- Distributed Platoon Control Under Topologies With Complex Eigenvalues: Stability Analysis and Controller Synthesis, S. E. Li, X. Qin, Y. Zheng, J. Wang, K. Li, and H. Zhang, page 206
- Data-Driven Schemes for Robust Fault Detection of Air Data System Sensors, M. L. Fravolini, G. del Core, U. Papa, P. Valigi, and M. R. Napolitano, page 234
- Decentralized Charging Control of Electric Vehicles in Residential Distribution Networks, M. Liu, P. K. Phanivong, Y. Shi, and D. S. Callaway, page 266

Brief Papers

- Convex Identification of Minimal Function Bases for Cylinder Pressure by Using Pressure Values as Basis Weights, M. Hedegård, T. Wik, K. Fredriksson, and J. Engbom, page 346
- Performance Analysis of Dynamic PCA for Closed-Loop Process Monitoring and Its Improvement by Output Oversampling Scheme, K. Wang, J. Chen, and Z. Song, page 378
- Optimizing the Energy Management Strategy for Plug-In Hybrid Electric Vehicles With Multiple Frequent Routes, X. Zeng and J. Wang, page 394
- LMI-Based Design of Distributed Controllers to Achieve Component Swapping Modularity, A. Ghaffari
and A. G. Ulsoy, page 401
- A Simple Control Approach for Buck Converters With Current-Constrained Technique, T. Guo, Z. Wang, X. Wang, S. Li, and Q. Li, page 418
- Investigating Achievable Performances for Robust Broadband Active Noise Control in an Enclosure, P. Loiseau, P. Chevrel, M. Yagoubi, and J.-M. Duffal, page 426
- Wide-Area Damping Control using Reduced Copy under Intermittent Observation: A Novel Performance Measure, A. Yogarathinam and N. R. Chaudhuri, page 434
- Distributed Control of Coupled Inhomogeneous Diffusion in Tokamak Plasmas, B. Mavkov, E. Witrant, and C. Prieur, page 443

COMMENTS AND CORRECTIONS
- A Correction and Some Comments on the Article “Polynomially Complex Synthesis of Distributed Supervisors for Large-Scale AMSs Using Petri Nets,” S. Reveliotis, page 459

1.5. IEEE Transactions on Automatic Control
Contributed by: Alessandro Astolfi, ieeetac@imperial.ac.uk

Table of Contents
IEEE Transactions on Automatic Control
Volume 63 (2018), Issue 12 (December)
Scanning the Issue, p. 4033
Papers
- Probabilistic Motion Planning under Temporal Tasks and Soft Constraints Meng Guo, Michael M. Zavlanos, p. 4051
- A Non-Convex Scenario Theory M. C. Campi, Simone Garatti, Federico Alessandro Ramponi, p. 4067
- On the Optimal Control of Passive or Non-Expansive Systems Timothy H. Hughes, p. 4079
- Incremental Stability of Hybrid Dynamical Systems J. J. Benjamin Biemond, Romain Postoyan, W.P.M.H. Heemels, Nathan Van De Wouw, p. 4094
- A New Varying-Parameter Convergent-Differential Neural-Network for Solving Time-varying Convex QP Problem Constrained by Linear-Equality Zhijun Zhang, Yeyun Lu, Lunan Zheng, Shuai Li, Zhuliang Yu, Yuanqing Li, p. 4110
- Tight Global Linear Convergence Rate Bounds for Operator Splitting Methods Goran Banjac, Paul J. Goulart, p. 4126
- Affine Formation Maneuver Control of Multi-Agent Systems Shiyu Zhao, p. 4140
- Observer Design for Triangular Systems under Weak Observability Assumptions Dionysios Theodosis, Dimitris Boskos, John Tsinias, p. 4156
- Algebraic Methods for Multi-Objective Optimal Design of Control Feedbacks for Linear Systems Laura Menini, Corrado Possieri, Antonio Tornambe, p. 4188
- Optimal Event-Driven Multi-Agent Persistent Monitoring of a Finite Set of Data Sources Nan Zhou, Xi Yu, Sean B. Andersson, Christos G. Cassandras, p. 4204
- Backstepping Control of Coupled Linear Parabolic PIDEs with Spatially-Varying Coefficients Joachim Deutscher, Simon Kerschbaum, p. 4218
- Separable and Localized System Level Synthesis for Large-Scale Systems Yuh-Shyang Wang, Nikolai Matni, John C. Doyle, p. 4234
- A Unified Stochastic Hybrid System Approach to Aggregate Modeling of Responsive Loads Lin Zhao, Wei Zhang, p. 4250

Technical Notes and Correspondence
- Bilinear Transformation for Discrete-Time Positive Real and Negative Imaginary Systems Mei Liu, Junlin Xiong, p. 4264
- PDE Boundary Control of Multi-Input LTI Systems with Distinct and Uncertain Input Delays Yang Zhu, Miroslav Krstic, Hongye Su, p. 4270
- Decentralized Supervisory Control of Discrete Event Systems: an Arborescent Architecture to Realize Inference-Based Control Ahmed Khoumsi, Hicham Chakib, p. 4278
- Structure Preserving Truncation of Nonlinear Port Hamiltonian Systems Yu Kawano, Jacquelen M.A. Scherpen, p. 4286
- Distributed Inertial Best Response Dynamics Brian Swenson, Ceyhun Eksin, Soummya Kar, Alejandro Ribeiro, p. 4294
- A Novel Method to Estimate the Reaching Time of the Super-Twisting Algorithm Richard Seeber, Martin Horn, Leonid Fridman, p. 4301
- On the Finite-Time Regulation of Euler-Lagrange Systems without Velocity Measurements Emmanuel Cruz-Zavala, Emmanuel Nuño, Jaime A. Moreno, p. 4309
- Mean Square Stability Analysis of Stochastic Continuous-time Linear Networked Systems Sai Pushpak Nandanoori, Amit Diwadkar, Umesh Vaidya, p. 4323
- Distributed Convex Optimization with Inequality Constraints over Time-varying Unbalanced Digraphs Pei Xie, Keyou You, Shiji Song, Cheng Wu, p. 4331
- Gradient-Based Observer for Simultaneous Localization and Mapping David Evan Zlotnik, James Richard Forbes, p. 4338
- Composite Robust $H_{\infty}$ Control for Uncertain Stochastic Nonlinear Systems with State Delay via Disturbance Observer Yunlong Liu, Hong Wang, Lei Guo, p. 4345
- Attack-Resilient H2, H-infinity, and L1 State Estimator Yorie Nakahira, Yilin Mo, p. 4353
- Cooperative Control via Congestion Game Approach, Yaqi Hao, Sisi Pan, Yupeng Qiao, Daizhan Cheng p. 4361
- A New Distributed Model Predictive Control for Unconstrained Double-Integrator Multi-Agent Systems Bing Zhu, Kexin Guo, Lihua Xie, p. 4367
- A Predictor-Based Model Reference Adaptive Controller for Time-Delay Systems Kim-Doang Nguyen, p. 4375
- Adaptive Cooperative Output Regulation of Discrete-Time Linear Multi-Agent Systems By a Distributed Feedback Control Law Tao Liu, Jie Huang, p. 4383
- Event-Triggered Leader-Following Consensus for Nonlinear Multi-Agent Systems Subject to Actuator Saturation using Dynamic Output Feedback Method Xiu You, Chang-Chun Hua, Xin-Ping Guan, p. 4391
- Effect of Edge Elimination on the Delay Margin of a Class of LTI Consensus Dynamics Min Hyong Koh, Rifat Sipahi, p. 4397
- Necessary Stability Conditions for Linear Difference Equations in Continuous Time Emanuel Rocha, Sabine Mondié, Michael Di Loreto, p. 4405
- Finite-Time Consensus and Tracking Control of A Class of Nonlinear Multi-Agent Systems Zhenxing Li, Haibo Ji, p. 4413
- Passivity-Based Distributed Optimization with Communication Delays Using PI Consensus Algorithm Takeshi Hatanaka, Nikhil Chopra, Takayuki Ishizaki, Na Li, p. 4421
- Event-Triggered Output Regulation of Heterogeneous Multi-Agent Networks Xiangyu Meng, Lihua Xie, Yeng Chai Soh, p. 4429
- Synthesis of Maximally-Permissive Non-blocking Supervisors for the Lower-Bound Containment Problem Xiang Yin, Stephane Lafortune, p. 4435
- Continuous-Time DC Kernel — A Stable Generalized First-Order Spline Kernel Tianshi Chen, p. 4442

1.6. IEEE Control Systems Society Publications Content Digest

Contributed by: Kaiwen Chen, kaiwen.chen16@imperial.ac.uk

The IEEE Control Systems Society Publications Content Digest is a novel and convenient guide that helps readers keep track of the latest published articles. The CSS Publications Content Digest, available at http://ieeecss.org/publications-content-digest provides lists of current tables of contents of the periodicals sponsored by the Control Systems Society. Each issue offers readers a rapid means to survey and access the latest peer-reviewed papers of the IEEE Control Systems Society. We also include links to the Society’s sponsored Conferences to give readers a preview of upcoming meetings.

2. Miscellaneous

2.1. Software Release: MORLAB 4.0

Contributed by: Steffen W. R. Werner, werner@mpi-magdeburg.mpg.de

Version 4.0 of the MORLAB, Model Order Reduction LABoratory, toolbox has been released. The toolbox is a collection of MATLAB and Octave routines for model order reduction of linear dynamical systems based on the solution of matrix equations. The implementation is based on spectral projection methods, e.g., methods based on the matrix sign function and the matrix disk function. The toolbox contains implementations for standard, descriptor and second-order systems: - Modal truncation (MT)
- Balancing related methods (BT, BST, FLBT, LQGBT, PRBT, BRBT, HINFBT, TLBT)
- Hankel-norm approximation (HNA)
Also, matrix equation solvers based on the matrix sign function as well as further subroutines for the analysis of linear dynamical systems are provided in the MORLAB toolbox.

For more details on this software, click here.
2.2. PhD Course on Multi-Agent Distributed Optimization and Learning over Wireless Networks
Contributed by: Luca Schenato schenato@dei.unipd.it

PhD Course on “Multi-Agent Distributed Optimization and Learning over Wireless Networks”, Paris-Saclay, 3-7/06/2019
In the context of the 2019 International Graduate School on Control (EECI-IGSC-2019, http://www.eeci-igsc.eu/igsc-program/), Prof. Luca Schenato and Prof. Ruggero Carli will teach a course on “Multi-Agent Distributed Optimization and Learning over Wireless Networks” at Paris-Saclay from 03/06/2019 to 07/06/2019 (see https://bit.ly/2GHSXuC for a detailed description). The course is eligible for 2nd Year Master Degree credits (3 ECTS) and Scientific modules for PhD’s students training portfolio. The deadline for advance registration is 28/02/2019. Partial financial support will be applied for selected PhD Students worldwide.

2.3. Graduate School on Model Reduction, Imperial College London, UK
Contributed by: Giordano Scarciotti, g.scarciotti@imperial.ac.uk

EECI International Graduate School on Model Reduction, Imperial College London
We will hold an International Graduate School on Control. The topic will be “Model Reduction for Linear and Nonlinear Systems.” The school will last 5 days (21 hours) from the 29th to the 3rd of May and it will take place at Imperial College London. For more information, please follow the links below.
Registration website: http://www.eeci-igsc.eu/registration/
Early registration closes on the 28 of February.
If you have any question, do not hesitate to contact me at g.scarciotti@imperial.ac.uk

3  Books

3.1. Classical and Modern Controls with Microcontrollers
Contributed by: Laura Burgess, laura.burgess@springer.com

Classical and Modern Controls with Microcontrollers by Ying Bai and Zvi S Roth
ISBN: 978-3-030-01381-3
February 2019, Springer
Hardcover, 608 pages, $219.99, €176.79
This book focuses on the design, implementation and applications of embedded systems and advanced industrial controls with microcontrollers. It combines classical and modern control theories as well as practical control programming codes to help readers learn control techniques easily and effectively. The book covers both linear and nonlinear control techniques to help readers understand modern control strategies.

The author provides a detailed description of the practical considerations and applications in linear and nonlinear control systems. They concentrate on the ARM® Cortex®-M4 MCU system built by Texas Instruments™ called TM4C123GXL, in which two ARM® Cortex®-M4 MCUs, TM4C123GH6PM, are utilized. In order to help the reader develop and build application control software for a specified microcontroller unit.

Readers can quickly develop and build their applications by using sample project codes provided in the book to access specified peripherals. The book enables readers to transfer from one interfacing protocol to another, even if they only have basic and fundamental understanding and basic knowledge of one interfacing function. Classical and Modern Controls with Microcontrollers is a powerful source of information for control and systems engineers looking to expand their programming knowledge of C, and of applications of embedded systems with microcontrollers. The book is a textbook for college students majored in CE, EE and ISE to learn and study classical and modern control technologies. The book can also be adopted as a reference book for professional programmers working in modern control fields or related to intelligent controls and embedded computing and applications.

Content
1. Introduction and Overview to This Book
2. Overview of the Fundamentals of Control Systems
3. Introduction to Tiva C MCU LaunchPad™—TM4C123G
4. System Mathematical Models and Model Identifications
5. Classical Linear Control Systems—PID Control Systems
6. Practical Nonlinear Control Systems
7. Fuzzy Logic Control Systems
8. Fuzzy Logic Controller Design in TM4C123G MCU System
9. Interval Type-2 Fuzzy Logic Controllers

Deep Learning and Missing Data in Engineering Systems
Contributed by: Laura Burgess, laura.burgess@springer.com

Deep Learning and Missing Data in Engineering Systems by Collins Achepsah Leke Tshilidzi Marwala
ISBN: 978-3-030-01179-6
February 2019, Springer
Hardcover, 179 pages, $169.99, €145.59

Deep Learning and Missing Data in Engineering Systems uses deep learning and swarm intelligence methods to cover missing data estimation in engineering systems. The missing data estimation processes proposed in the book can be applied in image recognition and reconstruction. To facilitate the imputation of missing data, several artificial intelligence approaches are presented, including: - deep autoencoder neural networks
- deep denoising autoencoder networks
- the bat algorithm
- the cuckoo search algorithm
- the firefly algorithm.

The hybrid models proposed are used to estimate the missing data in high-dimensional data settings more accurately. Swarm intelligence algorithms are applied to address critical questions such as model selection and model parameter estimation. The authors address feature extraction for the purpose of reconstructing the input data from reduced dimensions by the use of deep autoencoder neural networks. They illustrate new models diagrammatically, report their findings in tables, so as to put their methods on a sound statistical basis. The methods proposed speed up the process of data estimation while preserving known features of the data matrix.

This book is a valuable source of information for researchers and practitioners in data science. Advanced undergraduate and postgraduate students studying topics in computational intelligence and big data, can also use the book as a reference for identifying and introducing new research thrusts in missing data estimation.

Content
1. Introduction to Missing Data Estimation
2. Introduction to Deep Learning
3. Missing Data Estimation Using Bat Algorithm
4. Missing Data Estimation Using Cuckoo Search Algorithm
5. Missing Data Estimation Using Firefly Algorithm
6. Missing Data Estimation Using Ant Colony Optimization Algorithm
7. Missing Data Estimation Using Ant-Lion Optimizer Algorithm
8. Missing Data Estimation Using Invasive Weed Optimization Algorithm
9. Concluding Remarks

3.3. Optimal Impulsive Control
Contributed by: Laura Burgess, laura.burgess@springer.com

Optimal Impulsive Control by Aram Arutyunov, Dmitry Karamzin, and Fernando Lobo Pereira
ISBN: 978-3-030-02259-4
February 2019, Springer
Hardcover, 174 pages, $149.99, €119.99

Optimal Impulsive Control explores the class of impulsive dynamic optimization problems—problems that stem from the fact that many conventional optimal control problems do not have a solution in the classical setting—which is highly relevant with regard to engineering applications. The absence of a classical solution naturally invokes the so-called extension, or relaxation, of a problem, and leads to the notion of generalized solution which encompasses the notions of generalized control and trajectory; in this book several extensions of optimal control problems are considered within the framework of optimal impulsive control theory. In this framework, the feasible arcs are permitted to have jumps, while the conventional absolutely continuous trajectories may fail to exist.

The authors draw together various types of their own results, centered on the necessary conditions of optimality in the form of Pontryagin’s maximum principle and the existence theorems, which shape a
substantial body of optimal impulsive control theory. At the same time, they present optimal impulsive control theory in a unified framework, introducing the different paradigmatic problems in increasing order of complexity. The rationale underlying the book involves addressing extensions increasing in complexity from the simplest case provided by linear control systems and ending with the most general case of a totally nonlinear differential control system with state constraints. The mathematical models presented in Optimal Impulsive Control being encountered in various engineering applications, this book will be of interest to both academic researchers and practising engineers.

Content
1. Linear Impulsive Control Problems
2. Impulsive Control Problems Under Borel Measurability
3. Impulsive Control Problems Under the Frobenius Condition
4. Impulsive Control Problems Without the Frobenius Condition
5. Impulsive Control Problems with State Constraints
6. Impulsive Control Problems with Mixed Constraints
7. General Nonlinear Impulsive Control Problems

4 Journals

4.1. Content: Mathematics of Control, Signals, and Systems (MCSS)
Contributed by: Lars Gruene, lars.gruene@uni-bayreuth.de

Volume 30, Number 3 and 4
http://link.springer.com/journal/498/30/3
http://link.springer.com/journal/498/30/4

Table of Contents
- C. Flores, Control and stability of the linearized dispersion-generalized Benjamin–Ono equation on a periodic domain, Article No. 13, 16 pages
- F. D. Araruna, B. S. V. Araújo, E. Fernández-Cara, Stackelberg–Nash null controllability for some linear and semilinear degenerate parabolic equations, Article No. 14, 31 pages
- Timo Reis, Matthias Voigt, Inner–outer factorization for differential-algebraic systems, Article No. 15, 19 pages
- Constanza S. Fernández de la Vega, Diego Rial, Optimal distributed control problem for cubic nonlinear Schrödinger equation, Article No. 16, 26 pages
- Christopher Beattie, Volker Mehrman, Hongguo Xu, Hans Zwart, Linear port-Hamiltonian descriptor systems, Article No. 17, 27 pages
- Christoph Kawan, Adriano Da Silva, Invariance entropy for a class of partially hyperbolic sets, Article No. 18, 40 pages
- Daniel E. Miller, Mohamad T. Shahab, Classical pole placement adaptive control revisited: linear-like convolution bounds and exponential stability, Article No. 19, 51 pages
- Marcelo M. Cavalcanti, Wellington J. Corrêa, Ryuichi Fukuoka, Zayd Hajjej, Stabilization of a suspension bridge with locally distributed damping, Article No. 20, 39 pages
- Jun Zheng, Hugo Lhachemi, Guchuan Zhu, David Saussié, ISS with respect to boundary and in-domain disturbances for a coupled beam-string system, Article No. 21, 25 pages
- Cyrus Mostajeran, Rodolphe Sepulchre, Monotonicity on homogeneous spaces, Article No. 22, 25 pages

4.2. Content: Asian Journal of Control
Contributed by: Li-Chen Fu, lichen@ntu.edu.tw

Asian Journal of Control
Vol.20, No.6 November, 2018

Content

Regular Papers:
1. Paper Title: Optimal Distance Function for Locally Weighted Average Prediction of Just-in-time Methods (Pages: 2055-2064)
   Authors: Yusuke Fujimoto, Ichiro Maruta and Toshiharu Sugie
2. Paper Title: Generalised Probabilistic Control Design for Uncertain Stochastic Control Systems (Pages: 2065-2074)
   Author: Randa Herzallah
3. Paper Title: Wind Turbine Multivariable Optimal Control based on Incremental State Model (Pages: 2075-2087)
   Authors: José Miguel Adánez, Basil Mohammed Al Hadithi and Agustín Jiménez
4. Paper Title: Symbolic Geometric Modelling of Tree-structure Robotic Mechanisms Using Lie Groups and Graph Theory (Pages: 2088-2100)
   Authors: Mohamed Abderrahim, Juan A. Escalera and Fares Abu-Dakka
   Authors: Chih-Lyang Hwang and John Y Hung
6. Paper Title: Exponential Mean-square Stability of Stochastic String Hybrid Systems under Continuous Non-gaussian Excitation (Pages: 2116-2129)
   Author: Leslaw Socha
7. Paper Title: Wide-area Stabiliser on Sliding Mode Control for Cross-area Power Systems with Random Delay and Packet Dropouts (Pages: 2130-2142)
   Authors: Meng Li and Yong Chen
8. Paper Title: Robust Tracking Control and Stabilization of Underactuated Ships (Pages: 2143-2153)
   Author: Jia-Wang Li
9. Paper Title: Analysis, Verification and Comparison on Feedback-aided Ma Equivalence and Zhang Equivalency of Minimum-kinetic-energy Type for Kinematic Control of Redundant Robot Manipulators (Pages: 2154-2170)
   Authors: Binbin Qiu, Yunong Zhang and Zhi Yang
10. Paper Title: Distributed H-Infinity Consensus Fault Detection for Uncertain T-S Fuzzy Systems with Time-varying Delays over Lossy Sensor Networks (Pages: 2171-2184)
    Authors: Shenquan Wang, Yulian Jiang and Yuanchun Li
11. Paper Title: Input-output Decoupling of Boolean Control Networks (Pages: 2185-2194)
Authors: Jin-Feng Pan, Jun-E Feng, Juan Yao and Jian-Li Zhao

12. Paper Title: Event-Triggered Fault Detection for Networked Control Systems Subject to Packet Dropout (Pages: 2195-2206)
Authors: Manel Atitallah, Mohammadreza Davoodi and Nader Meskin

Authors: Jiyong Tan, Songyi Dian and Tao Zhao

14. Paper Title: The Method of Reagent Control Based on Time Series Distribution of Bubble Size in a Gold-antimony Flotation Process (Pages: 2223-2236)
Authors: Zhongmei Li and Weihua Gui

15. Paper Title: Finite-time Synchronization of Complex-valued Delayed Neural Networks with Discontinuous Activations (Pages: 2237-2247)
Authors: Enli Wu, Xinsong Yang, Chen Xu, Fuad E. Alsaadi and Tasawar Hayat

16. Paper Title: Vibration-attenuation Controller Design for Structural Systems with Multi-rate Sampled Data (Pages: 2248-2259)
Authors: Falu Weng, Yi Guo, Yuanchun Ding, Shuren Han and Feiyue Geng

17. Paper Title: Delayed Feedback MPC Algorithm of Vehicle Platoons Subject to Constraints on Measurement Range and Driving Behaviors (Pages: 2260-2270)
Authors: Shiming Yu, Sainan Wu, Yunbo Zhao and Defeng He

18. Paper Title: Economic Optimization and Control Based on Multi Priority Rank RTO and Double Layered MPC (Pages: 2271-2280)
Authors: Hongguang Pan, Weimin Zhong and Zaiying Wang

19. Paper Title: Stability Analysis and L2-gain Of Switched Neutral Systems with all Unstable Subsystems (Pages: 2281-2289)
Authors: Haiyan Wang, Baowei Wu and Yue-E Wang

20. Paper Title: Exponential Stabilization of Time-varying Delayed Complex-valued Memristor-based Neural Networks via Impulsive Control (Pages: 2290-2301)
Authors: Xiao-fan Li, Jian-an Fang, Hui-yuan Li and Wen-yong Duan

21. Paper Title: Further Results on Quasi-synchronization of Delayed Chaotic Systems with Parameter Mismatches via Intermittent Control (Pages: 2302-2313)
Authors: Yan Jiang and Junyong Zhai

Brief Papers

1. Paper Title: Optimal Random Dither Quantizers for Positive Systems (Pages: 2314-2317)
Authors: Ryosuke Morita, Shun-ichi Azuma and Toshiharu Sugie

2. Paper Title: Stimulation Interval Evaluation for Lower-Limb Cycling Movement Based on Torque Observer (Pages: 2318-2330)
Authors: Po-Wen Hsueh, Mi-Ching Tsai and Chun-Lin Chen

3. Paper Title: Hierarchical Model Predictive Control for Parallel Hybrid Electrical Vehicle (Pages: 2331-2342)
Authors: Jiangtao Fu, Shuzhong Song, Zhumu Fu and Jianwei Ma

4. Paper Title: Pinning Consensus Analysis for Nonlinear Second-order Multi-agent Systems with Time-varying Delays (Pages: 2343-2350)
Authors: Dandan Zhang, Qiang Song, Yang Liu and Jinde Cao

5. Paper Title: Finite-time Scaled Consensus in Discrete-time Networks of Agents (Pages: 2351-2356)
Author: Yilun Shang

6. Paper Title: Prescribed Performance Fine Attitude Control for A Flexible Hypersonic Vehicle With Unknown Initial Errors (Pages: 2357-2369)
Authors: He-Wei Zhao, Yong Liang, Xiu-Xia Yang and Yun-An Hu

7. Paper Title: A Cross-coupling Control Approach for Coordinated Formation of Surface Vessels with Uncertain Disturbances (Pages: 2370-2379)
Authors: Mingyu Fu, Lingling Yu, Yuanhui Wang and Jianfang Jiao

8. Paper Title: Viability Criteria for a Switched System on Bounded Polyhedron (Pages: 2380-2387)
Authors: JianFeng Lv, Yan Gao and Na Zhao

4.3. Content: Proceedings of the Institute of Applied Mathematics
Contributed by proceedings.iam@gmail.com

Proceedings of the Institute of Applied Mathematics, V.7, N.2, 2018
- Fikret A. Aliev, M.M. Mutallimov, I.A. Maharramov, New sweep algorithm for solving a linear quadratic optimization problem with unseparated two-point boundary conditions
- A. O. Mostafa, Meromorphic Subclasses of p-valent Functions Involving Certain Operator
- H.K. Musaev, Linear degenerate convolution-elliptic equations with parameters
- B. Basavanagoud, Anand P. Barangi, Sunilkumar M. Hosamani, First neighbourhood zagreb index of some nanostructures
- E. A. Gasymov, Application of finite integral transformation method to the solution of mixed problems for parabolic equations with a control
- A.G. Naghiyev, F.A. Aliyeva, G.A. Naghiyev, Vibrational management in one class models with differential equations in partial derivatives with the criterion of maximum average quality
- A.B. Ramazanov, Accuracy of the gradient algorithm in tasks with - coordinate-convexity criterion functions
- Fikret A. Aliev, N.A. Aliev, N.A. Safarova, N.I. Velieva, Algorithm for solution the Cauchy problem for stationary linear systems of ordinary differential equations of fractional order
- T. K. Yuldashev, Determination of coefficient in differential equation with two dimensional whitham operator of higher power
- R. Shikhinskaya, E. Nasibov, S. Peker, Applying the fuzzy inference using wabl defuzzification method to fuzzy controls Anniversary

Contributed by: AMCS, amcs@uz.zgora.pl

International Journal of Applied Mathematics and Computer Science (AMCS)
2018, Volume 28, Number 4 (December)
Regular issue
www.amcs.uz.zgora.pl
- Li Q., Liu S. and Chen Y. Finite-time adaptive modified function projective multi-lag generalized compound synchronization for multiple uncertain chaotic systems 613
- Kabziński J. Synchronization of an uncertain Duffing oscillator with higher order chaotic systems 625
- Zhirabok A. and Shumsky A. Fault diagnosis in nonlinear hybrid systems 635
- Oprzedkiewicz K. and Mitkowski W. A memory-efficient noninteger-order discrete-time state-space model of a heat transfer process 649
- Cordero G., Santibañez V., Dzul A. and Sandoval J. Interconnection and damping assignment passivity-based control of an underactuated 2-DOF gyroscope 661
- Witkowska A. and Smierzchalski R. Adaptive backstepping tracking control for an over-actuated DP marine vessel with inertia uncertainties 679
- Fiems D. and De Vuyt S. From exhaustive vacation queues to preemptive priority queues with general interarrival times 695
- Kantavat P., Kijsirikul B., Songsiri P., Fukui K. and Numao M. Efficient decision trees for multi-class support vector machines using entropy and generalization error estimation 705
- Jankowski N. Comparison of prototype selection algorithms used in construction of neural networks learned by SVD 719
- Koziarski M. and Cyganek B. Impact of low resolution on image recognition with deep neural networks: An experimental study 735
- Kong W., Jiang B., Fan Q., Zhu L. and Wei X. Personal identification based on brain networks of EEG signals 745
- Kowal M., Skobel M. and Nowicki N. The feature selection problem in computer-assisted cytology 759
- Lucińska M. and Wierzchoń S.T. Clustering based on eigenvectors of the adjacency matrix 771
- Cichosz P. A case study in text mining of discussion forum posts: Classification with bag of words and global vectors 787
- Borowik G. Optimization on the complementation procedure towards efficient implementation of the index generation function 803

Publisher: University of Zielona Góra, Poland
ISSN: 1641-876X (print), 2083-8492 (online)
Frequency: Quarterly
Editor-in-Chief: Józef Korbicz
Website: www.amcs.uz.zgora.pl
E-mail: amcs@uz.zgora.pl
Scope: modern control theory and practice; artificial intelligence methods and their applications; applied mathematics and mathematical optimisation techniques; mathematical methods in engineering, computer science, and biology

Table of contents
Vol. 17, No. 1, January 2019

- Novel Nonlinear Backstepping Control of Synchronous Reluctance Motor Drive System for Position Tracking of Periodic Reference Inputs with Torque Ripple Consideration Chih-Hong Lin* and Jung-Chu Ting pp.1-17
- Active Disturbance Rejection Control of the Inertia Wheel Pendulum through a Tangent Linearization Approach M. Ramirez-Neria, H. Sira-Ramirez, R. Garrido-Moctezuma, and A. Luviano-Juarez* pp.18-28
- Decentralized Adaptive Control of Interconnected Nonlinear Systems with Unknown Control Directions and Actuator Failure Guiju Xu, Jiangshuai Huang*, and Xiaojie Su pp.29-37
- The Direct Feedback Control and Exponential Stabilization of a Coupled Heat PDE-ODE System with Dirichlet Boundary Interconnection Dong-Xia Zhao*, Jun-Min Wang, and Ya-Ping Guo pp.38-45
- Sampled-data Robust H-Infinity Control for T-S Fuzzy Time-delay Systems with State Quantization Xiaojing Han and Yuechao Ma* pp.46-56
- Allocating Minimum Number of Leaders for Seeking Consensus over Directed Networks with Time-varying Nonlinear Multi-agents Leitao Gao, Guanshe Zhao*, Guoqi Li*, Yuming Liu, Jiangshuai Huang, and Changyun Wen pp.57-68
- Parametric Fault Diagnosis of an Active Gas Bearing Andre Sekunda*, Henrik Niemann, Niels Kjølstad Poulsen, and Ilmar Santos pp.69-84
- Consensus of Second-order Multi-agent Systems with Directed Networks Using Relative Position Measurements Only Shan Cheng*, Han Dong, Li Yu, Dongmei Zhang, and Jinchen Ji pp.85-93
- Observer-based Composite Adaptive Dynamic Terminal Sliding-mode Controller for Nonlinear Uncertain SISO Systems Xiaofei Liu, Shengbo Qi*, Reza Malekain, and Zhixiong Li pp.94-106
- Improved Cascade Control System for a Class of Unstable Processes with Time Delay Cheng-qiang Yin*, Hong-tao Wang, Qun Sun, and Ling Zhao pp.126-135
- Consensus of the Second-order Multi-agent Systems under Asynchronous Switching with a Controller Fault Dianhao Zheng*, Hongbin Zhang, J. Andrew Zhang and Yang Li pp.136-144
- Friction Characteristics of a Cylinder Based on a Bridge-Type Pneumatic Energy-saving Circuit Hongwangle Du, Wei Xiong*, Zhong’ai Jiang, Qiu Li, and Lu Wang pp.145-154
- Design and Experimental Validation of a Robust Output Feedback Control for the Coupled Dynamics of a Micro Air Vehicle K. Harikumar*, Sidhant Dhall, and M. Seetharama Bhat pp.155-167
- Evaluation of Haptic Feedback in the Performance of a Teleoperated Unmanned Ground Vehicle in an Obstacle Avoidance Scenario Chanyoung Ju and Hyoung Il Son* pp.168-180
- Vehicle Reference Generator for Collision-free Paths Tarek Kabbani, Cuauhtemoc Acosta Lua, and Stefano Di Gennaro pp.181-192
- Path Following Predictive Control for Autonomous Vehicles Subject to Uncertain Tire-ground Adhesion and Varied Road Curvature Lu Yang, Ming Yue*, and Teng Ma pp.193-202
- Disturbance Observer-based Trajectory Following Control of Robot Manipulators Mohamadreza Homayounzade* and Amir Khademhosseini pp.203-211
- Pinning Impulsive Synchronization of Stochastic Memristor-based Neural Networks with Time-varying Delays Qianhua Fu*, Jingye Cai, Shouming Zhong, and Yongbin Yu pp.243-252

4.6. CFP: IEEE/CAA Journal of Automatica Sinica, Special Issue on Time Series Classification
Contributed by: Yan Ou, yan.ou@ia.ac.cn

Guest Editors:
- Houshang Darabi, University of Illinois at Chicago, USA, hdarabi@uic.edu
- Georgiana Ifrim, University College Dublin, Ireland, georgiana.ifrim@insight-centre.org
- Patrick Schäfer, Humboldt University of Berlin, Germany, patrick.schaefer@hu-berlin.de
- Diego Silva, Federal University of São Paulo, Brazil, diegofs@ufscar.br

Scope and significance of the special issue:
Time series classification research and applications have recently received a lot of attention. With the advancement of technological devices, time series data are being collected by a wide variety of devices, resulting in a wide range of research and applications. Various fields of studies, ranging from health care to weather readings, require time series classification. Activity and action recognition using time series data from fitness trackers are commonly being practiced. Today, a new generation of algorithms and techniques are being used to classify time series data that are widely available to the research community. For example, recently deep learning techniques that utilize convolutions and recurrent neural networks is being used to classify epileptic seizures from EEG recordings made available at the University of California-Irvine data repository. The topics of interest in this special issue include but not limited to the followings:
- Univariate/Multivariate time series classification
- On-line learning in time series classification
- Big Data time series classification

Back to the contents
- Deep Learning and/or complex network methodologies to improve time series classification accuracy
- Time series classification applications (health care, action recognition, image recognition, energy, etc.)

Timetable:
- Call for paper announced: 12/11/2018
- Submission deadline: 3/11/2019
- Previewing and Reviewer’s initial comments: 4/8/2019
- Revisions (if required) from authors: 5/6/2019
- Guest Editor’s recommendation: 5/20/2019
- Editors-in-chief (EIC)’ decision: 5/27/2019
- Final accepted manuscripts: 6/3/2019
- Publication which will be done by the Editorial Office: 9/1/2019

4.7. CFP: IEEE Control Systems Letters with CDC
Contributed by: Francesca Bettini, bettini@dei.unipd.it

Announcement: Submission to IEEE Control Systems Letters with CDC (2019) option starting January 4, 2019, is possible
As for the years 2017 and 2018, also this year the IEEE Control Systems Letters (L-CSS) offers the opportunity for authors to not only publish a paper in the journal but also to present the same paper at the flagship conference of the IEEE Control Systems Society: the IEEE Conference on Decision and Control (CDC).
The joint submission to IEEE Control Systems Letters and CDC 2019 will be possible ***from January 4 to March 1, 2019***.
Manuscripts submitted to the L-CSS with the CDC option will undergo a regular review as papers submitted to the Letters (so they should be submitted only to the L-CSS and not to the CDC). At the end of the first round of review, the reviews and the Associate Editor’s report will be forwarded to the CDC Program Committee, which will use them to decide on the inclusion of these manuscripts in the program of the Conference.
After the first cycle of review, the decisions about the acceptance or rejection of the manuscript for the L-CSS and for the CDC will be independent of each other. In particular, reviews and reports collected during a possible second round of review will not be forwarded to the CDC Program Committee.
Note that you can submit your paper through the Letters also if the paper will be part of an Invited Session at CDC 2019. In that case you should select “L-CSS and CDC Invited”, as submission type.
*** It is also a pleasure to inform you that the IEEE Control Systems Letters is now indexed in Scopus.***
For more information about joint submission to L-CSS and CDC see, specifically, http://ieee-cssletters.dei.unipd.it/Page_authors.html section “L-CSS and CDC”.
For more information about the L-CSS, please check the website at http://ieee-cssletters.dei.unipd.it/index.html
4.8. CFP: Journal Mathematics of Control, Signals, and Systems
Contributed by: Birgit Jacob, bjacob@uni-wuppertal.de

MCSS topical collection on input-to-state stability for infinite-dimensional systems
Guest Editors: Birgit Jacob, Andrii Mironchenko and Felix Schwenninger
The journal Mathematics of Control, Signals, and Systems (MCSS) is soliciting papers for a topical collection on this timely subject. The aim is to collect original high-quality papers as well as surveys on mathematical aspects of input-to-state stability (ISS) for infinite-dimensional systems.

Topics of interest for this collection include, but are not limited to: ISS for partial differential equations, ISS for boundary control systems, Lyapunov methods for input-to-state stability, applications of ISS to robust control and observation of PDE systems and ISS for coupled infinite-dimensional systems (including delays).

All manuscripts must be submitted via the Editorial Manager (EM) system at http://www.editorialmanager.com/mcss. When submitting a manuscript for this topical collection, please select the entry Topical collection on input-to-state stability for infinite-dimensional systems in the EM. The final publication decision based on the recommendations of the guest editors will be taken by the Editors-in-Chief. The editorial policy of MCSS is to publish original and high-quality research papers on mathematical control and system theory, including system theoretic aspects of signal processing. The topical collection will be published separately from the regular MCSS issues in SpringerLink. In addition, all accepted papers will appear in regular issues of MCSS as soon as they are ready for publication.

Important dates:
- Deadline for the initial submission of manuscripts October 1, 2019
- Notification about the first decision February 1, 2020
- Revised manuscripts due March 1, 2020
- Notification about final acceptance decision April 1, 2020
- Publication of the complete topical collection Autumn 2020


4.9. CFP: Special Issue on Learning From Adaptive Control Under Relaxed Excitation Conditions
Contributed by: Yongping Pan, yongppan@gmail.com

Last call! Deadline extended to 31 Dec 2018!
International Journal of Adaptive Control and Signal Processing (IJACSP) invites authors to submit original articles on learning from adaptive control under relaxed excitation conditions rather than the classical condition of persistent excitation (PE).

The capacity to learn is one of the fundamental features of autonomous intelligent behaviour which is reflected by parameter convergence in adaptive control. Learning is desirable as it enhances stability and robustness properties of adaptive control systems such as superior trajectory tracking, accurate online modelling, and robustness against various perturbations. However, the classical PE condition that guarantees to learn from adaptive control is too stringent and usually infeasible in practice. Even when PE exists, the learning speed in adaptive control heavily depends on the PE strength resulting in a generally slow learning process. The exploitation of online historical data provides a promising way to achieve learning
from adaptive control without PE and has attracted great attention in recent years, where typical emerging techniques include concurrent learning and composite learning. In these emerging learning techniques, online historical data are exploited together with instantaneous data to construct special prediction errors that are available from measurable signals, and both prediction and tracking errors are employed to update parameter estimates so that learning can be achieved under weaker excitation conditions. This special issue aims to provide state-of-the-art developments about learning from adaptive control, with a special focus on online historical data-driven adaptive control and parameter estimation as well as their applications to various real-world problems. However, other contributions that also aim to relax the classical PE condition for parameter convergence are also warmly welcome. Interested topics include but are not limited to:

- Composite learning for adaptive control and parameter estimation
- Concurrent learning for adaptive control and parameter estimation
- Learning from adaptive control under functional uncertainties
- Learning from adaptive control under time-varying uncertainties
- Learning from adaptive control under various perturbations
- Other learning techniques for parameter convergence without PE
- Real-world applications of all above emerging learning techniques

Authors are requested to submit their manuscripts online at the journal submission website: https://mc.manuscriptcentral.com/acsp-wiley. When submitting, please choose manuscript type “Learning From Adaptive Control Under Relaxed Excitation Conditions” and answer “Yes” to “Is this submission for a Special Issue?” The schedule of the Special Issue is shown as follows, but submissions will follow the first-come first-review policy.

Time Table:
- Deadline for first submissions: Extended to 31 Dec 2018
- Decision of first submissions: 31 Mar 2019
- Deadline for second submissions: 30 Apr 2019
- Final decision notification: 31 May 2019
- Expected publication: Autumn 2019

Guest Editors:
- Dr Yongping Pan (Lead) Email: yongppan@gmail.com Department of Biomedical Engineering, National University of Singapore, Singapore
- Prof Alexey Bobtsov Email: bobtsov@mail.ru Department of Control Systems and Informatics, ITMO University, Russia
- Prof Mohamed Darouach Email: modar@pt.lu Research Center for Automatic Control of Nancy, University of Lorraine, France
- Prof Young-Hoon Joo Email: yhjoo@kunsan.ac.kr Department of Control and Robotics Engineering, Kunsan National University, Korea

For online information, please visit the homepage of the journal: https://onlinelibrary.wiley.com/page/journal/10991115/homepage/special_issues.htm You are welcome to contact the Leading Guest Editor for any question.
5 Conferences

5.1. ACM e-Energy’19
Contributed by: Javad Lavaei, lavaei@berkeley.edu

ACM e-Energy’19, Phoenix, AZ, United States

ACM e-Energy is the premier forum for research at the intersection of computing and communication technologies with energy systems. It has established a strong track record for high-quality research in the application of computing and networked systems to make legacy systems more energy-efficient and in the design, analysis, and development of innovative energy systems. The Tenth International Conference on Future Energy Systems (ACM e-Energy) will be co-located with the ACM Federated Computing Research Conference (FCRC), from the 25th to the 28th of June 2019 at the Phoenix Convention Center in Phoenix, Arizona. By bringing together researchers in a single-track conference designed to offer significant opportunities for personal interaction, it is a major forum for shaping the future of this area.

We seek high-quality papers at the intersection of computing and communication technologies with energy systems. We welcome submissions describing conceptual advances, as well as advances in system design, implementation and experimentation. ACM e-Energy is committed to a fair, timely, and thorough review process with sound and detailed feedback. Relevant topics for ACM e-Energy include, but are not limited to the following:

- Applications of cyber-physical systems and industrial Internet-of-Things to smart energy systems
- Control of distribution and transmission networks
- Data analytics for the smart grid and energy-efficient systems
- Demand-side management, including innovative pricing, incentive design
- Distributed energy resources, including energy storage resources
- Distributed ledger systems for energy
- Electricity market and electricity supply chain measurement, modeling, and analysis
- Electric vehicles and energy-efficient transportation systems
- Energy-efficient computing and communication, including in data centers
- Microgrid and distributed generation management and control
- Modeling and understanding the user behavior of energy systems enabled by computing and communication technologies
- Monitoring and control of energy systems for smart grids, smart buildings, and smart cities
- Privacy and security of smart grid infrastructures

AUTHORS TAKE NOTE: The official publication date is the date the proceedings are made available in the ACM Digital Library. This date may be up to two weeks prior to the first day of your conference. The official publication date affects the deadline for any patent filings related to published work. (For those rare conferences whose proceedings are published in the ACM Digital Library after the conference is over, the official publication date remains the first day of the conference.)

General Chairs: Xiaojun Lin (Purdue University, USA), Steven Low (Caltech, USA) Program Chairs: Suman Banerjee (University of Wisconsin, USA), Sebastian Lehnhoff (University of Oldenburg, Germany)

Key Dates:
- Paper registration/abstract deadline: January 21th
- Paper submission deadline: January 28th
- Author notification: April 15th
- E-Energy19 conference at FCRC: June 25-28th (Poster/demo deadlines can be found on the webpage)

Full Paper Submissions: Up to 10 pages in 9-point ACM double-column format excluding references and appendices should present original theoretical and/or experimental research in any of the areas listed above that has not been published, accepted for publication, or under review by another workshop, conference, or journal. Paper review will follow a standard double-blind policy. Selected papers will be fast-tracked to the SpringerOpen Journal on Energy Informatics (open access fees will be waived).

Notes Paper Submissions: Up to 4 pages in 9-point ACM double-column format excluding references and appendices. Notes are intended to discuss preliminary research results, advocate new research directions, or present industrial projects. Notes will be reviewed based on the novelty of their ideas, potential for impact, and quality of presentation, following a double-blind policy.

5.2. Mediterranean Conference on Control & Automation
Contributed by: Daniel Zelazo, dzelazo@technion.ac.il

27th Mediterranean Conference on Control & Automation
July 1 - 4, 2019 Akko, Israel
https://med19.net.technion.ac.il

**Call for papers**
Dear Friends and Colleagues, The 27th Mediterranean Conference on Control and Automation (MED 2019) will be held on the 1-4 of July 2019 in Akko, Israel. Akko is situated on the Phoenician northern part of the Mediterranean coast of Israel, with an exceptional history and rich cultural heritage, spanning over 4,000 years. It has been designated by UNESCO as a World Heritage site. MED 2019 will include tutorials and workshops, a technical program of presentations, keynote lectures and social events. It offers a great opportunity for academics, researchers and industrial players working in control and automation to network together, present research progress and address new challenges. The conference will include a wide range of topics on systems, automation, robotics and control including theory, related hardware, software and communication technologies, as well as applications.

All submissions are processed electronically via the PaperCept paper management system. All papers will be peer reviewed. Accepted and presented papers will be published in the digital conference proceedings and made available on IEEE Xplore.

KEYNOTE SPEAKERS
- Amnon Shashua, co-founder, President, and CEO of Mobileye
- Martina Maggio, Lund University
- Florian Dörfler, ETH

IMPORTANT DATES
- 22 January 2019: Contributed papers, invited sessions, and tutorial proposals are due.
5.3. International Conference on Methods and Models in Automation and Robotics
Contributed by: Pawel Dworak, pawel.dworak@zut.edu.pl

24th International Conference on Methods and Models in Automation and Robotics
26-29 August 2019, Amber Baltic Hotel, Miedzyzdroje, Poland

It is our great pleasure to invite you to participate in the 24th International Conference on Methods and Models in Automation and Robotics, MMAR 2019 to be held in Miedzyzdroje, Poland, from August 26th to August 29th, 2019.

The Conference will be a good opportunity for highlighting the new results and directions of Automatic Control theory, technology and applications. As such, it mainly will concentrate on the following key points:
- emphasis on invited lectures including plenaries,
- industry participation promotion,
- attract young people to study and work in the field.

The participants of the 24th International MMAR Conference will have the opportunity to take part in the wide spectrum of categories for technical presentations, including plenary lectures, regular papers of both lecture and poster session types, and panel discussion. We look forward to seeing our old and new friends in Poland. You are kindly invited to participate in the 24th International MMAR Conference in Miedzyzdroje, Poland.

The proceedings of the conference will be submitted for review and approval for inclusion in the IEEE Xplore Digital Library and will be submitted for inclusion in the Conference Proceedings Citation Index - Science (ISI Web of Science).

Key Dates
- March 4, 2019: Paper submission
- May 20, 2019: Notification of acceptance
- June 24, 2019: Registration
- June 24, 2019: Camera-ready paper submission

For more information see http://www.mmar.edu.pl

5.4. IFAC/CACHE Conference on Foundations of Systems Biology in Engineering
Contributed by: Steffen Waldherr, steffen.waldherr@kuleuven.be

IFAC/CACHE Conference on Foundations of Systems Biology in Engineering, October 15–18, Valencia, Spain
Computational and engineering methods are at the core of systems biology, synthetic biology and systems medicine. The integration of quantitative data from a variety of sources together with model inference and analysis techniques as well as control theory have proven valuable to decipher biological systems ranging from intracellular mechanisms to human disease.

The conference Foundations of Systems Biology in Engineering (FOSBE) aims at stimulating discussion and fostering collaborations among scientists, from method to theory oriented engineers to experimental and theoretical biologists, interested or working on systems theory applied to life sciences. FOSBE is jointly organized by the International Federation of Automatic Control (IFAC) and the CACHE Corporation on a rotating basis. In 2019, the 8th FOSBE will be organized by IFAC, sponsored by the Technical Committee on Biosystems and Bioprocesses (8.4). It will be held at the Universitat Politècnica de Valencia in Valencia, Spain, on 15–18 October 2019. More information is available at the conference website: http://fosbe2019.ai2.upv.es.

Confirmed Invited Speakers:
- Alexander Hoffmann (UCLA)
- Mustafa Khammash (ETH Zurich)
- Stephan Schaller (esqlabs)
- Ines Thiele (University of Luxembourg)

Important Dates:
- Submission site opening January 20, 2019
- Deadline for submission of draft papers March 29, 2019
- Decision notification June 28, 2019
- Deadline for submission of final papers July 26, 2019
- Conference opening October 15, 2019

Organizers:
- Steffen Waldherr, IPC Chair
- Julio Banga, IPC Co-chair
- Jesús Picó, NOC Chair
- Eva Balsa-Canto, NOC Co-chair

5.5. International Conference on System Theory, Control and Computing
Contributed by: Radu-Emil Precup, radu.precup@aut.upt.ro

23rd International Conference on System Theory, Control and Computing - ICSTCC 2019
October 9-11, 2019, Sinaia, Romania
Website: http://icstcc2019.cs.upt.ro/

ICSTCC 2019 aims at bringing together under a unique forum, scientists from academia and industry, to discuss the state of the art and the new trends in System Theory, Control and Computer Engineering, promoting professional interactions and fellowship.

ICSTCC 2019 is technically co-sponsored by the IEEE Control Systems Society. In accordance with the Letter of Acquisition signed with IEEE, the Proceedings of ICSTCC 2019 will be submitted for inclusion in IEEE Xplore Digital Library. The Proceedings will also be submitted for indexing in Clarivate Analytics Conference Proceedings Citation Index (formerly ISI Proceedings).
ICSTCC 2019 conference will be hosted by the beautiful Palace Hotel, Sinaia. Sinaia is one of the most famous and oldest mountain tourist resorts in Romania, known as "The Carpathian Pearl". It is best known for being the summer residence of the Romanian Royal family. We are planning a number of field trips: Bran Castle (Dracula’s Castle) and Peles Castle.

Confirmed keynote speakers:
- Maria Elena Valcher (University of Padova, Italy)
- Marios M. Polycarpou (University of Cyprus, Cyprus)
- Marcin Paprzycki (Polish Academy of Sciences, Poland)
- Gianluca Tempesti (University of York, UK)

Important dates:
- April 19, 2019: Submission of proposals for invited sessions
- April 26, 2019: Initial submission of papers
- June 28, 2019: Notification of acceptance for papers
- July 26, 2019: Final camera ready manuscript and registration payment

The main areas of interest are: Automation and Robotics; Computer Science and Engineering; Electronics and Instrumentation.

All papers should be submitted via the online submission system at http://controls.papercept.net/conferences/scripts/start.pl#STCC19

For further information please contact the organizing committee at: icstcc2019@cs.upt.ro.

5.6. Quantum Science, Engineering and Technology Conference
Contributed by: Daoyi Dong, daoyidong@gmail.com

The Quantum Science, Engineering and Technology Conference (qSET) aims to bring together leading experts and students in the fields of quantum science, engineering and technology to present their best research and share their knowledge, in the form of plenary talks, keynote talks, invited talks, posters and pre-conference workshops. The conference covers a broad range of topics within quantum science and technology, including quantum computation, quantum communication, quantum control, quantum engineering, quantum sensing, quantum simulation and quantum navigation.

The first conference will take place in Canberra, Australia, 8-11 April 2019. Attendees are strongly encouraged to complete their registration at their earliest convenience. Participants are welcome to submit poster abstracts for reviewing and are also welcome to organize half-day or one-day pre-conference workshops (on 8 April 2019). The conference website is https://www.unsw.adfa.edu.au/conferences/qset.

For all enquiries please contact local qSET 2019 organizers at qset2019@gmail.com.

Plenary Speakers
- Professor Michelle Simmons, University of New South Wales, Australia
- Professor Marlan O. Scully, Princeton University, USA
- Professor Franco Nori, RIKEN, Japan and University of Michigan, USA

Keynote Speakers
- Professor David J. Reilly, Microsoft Corporation and University of Sydney, Australia
- Professor Hideo Mabuchi, Stanford University, USA
- Professor Cass Sackett, University of Virginia, USA
5.7. International Conference on Control, Automation and Systems
Contributed by: Zee Yeon Lee, conference@icрос.org

2019 19th International Conference on Control, Automation and Systems (ICCAS 2019) October 15-18, 2019

Call for Papers: http://icros.org/data/download/ICCAS2019/ICCAS2019_CFP.pdf

The aim of the ICCAS is to bring together researchers and engineers worldwide to present their latest works,
and disseminate the state-of-the-art technologies related to control, automation, robotics, and systems.

Important Dates
- May 31, 2019 : Submission of Regular Papers (3-6 pages)
- June 30, 2019 : Submission of Organized Session/Mini-symposium Proposal
  with Papers and Research Poster Papers (1-2 pages)
- July 31, 2019 : Notification of Acceptance
- August 31, 2019 : Submission of Final Camera-ready Papers

Paper Submission
The conference invites three types of submission: “Regular Paper”, “Research Poster Paper”, and “Orga-
nized (Invited) Session/Mini-symposium Paper.” Indexed in: IEEE Xplore, EI compendex, and SCOPUS

Plenary Speakers
- Frank Doyle (Harvard Univ., USA)
- Jun-Ichi Imura (Tokyo Institute of Technology, Japan)
- Eduardo F. Camacho (Univ. of Seville, Spain)
- Tianyou Chai (Northeastern Univ., China)
- Dawn Tilbury (Univ. of Michigan, USA)

ICCAS 2019 will be held on October 15–18, 2019 at ICC Jeju in Jeju, Korea. Jeju is a very beautiful and
relaxing island, and selected as the World Natural Heritage. The aim of ICCAS 2019 is to bring together
professors, researchers, engineers and students worldwide to present their recent works and discuss the
state-of-the-art technologies related to control, automation, robotics and systems.

General Chair: Chung Choo Chung (Hanyang Univ., Korea)
General Co-Chair: Jay H. Lee (KAIST, Korea)
Program Chair: Dong Eui Chang (KAIST, Korea)
Organized by Institute of Control, Robotics and Systems (ICROS)
5.8. **International Symposium on Autonomous Systems**  
Contributed by: Youmin Zhang, Youmin.Zhang@concordia.ca

Last Call-for-Papers: The 3rd International Symposium on Autonomous Systems (ISAS 2019,) May 29-31, 2019, Shanghai, China (www.isas.cqu.edu.cn)

On behalf of the ISAS 2019 Organizing Committee, this is to invite you to submit your contributions to the The 3rd International Symposium on Autonomous Systems (ISAS 2019), May 29-31, 2019, Shanghai, China (www.isas.cqu.edu.cn).

The 3rd International Symposium on Autonomous Systems, ISAS 2019, will be held in Shanghai, China, during May 29-31, 2019. The conference is organized by Chongqing University, Shanghai Jiao Tong University, China, Star Institute for Intelligent Systems, China, University of Texas at Arlington, USA, and technically co-sponsored by IEEE Computational Intelligence Society, Technical Committee on Reliable Control Systems, Chinese Association of Automation, State Key Laboratory of Synthetical Automation for Process Industries, Northeastern University, China, and Key Laboratory of System Control and Information Processing, Ministry of Education of China.

ISAS focuses on both theory and applications mainly covering the topics of artificial intelligence, control, automation, robotics and autonomous systems. In addition to the technical sessions, there will be invited sessions, panel sessions and keynote addresses.

The topics of interest include, but are not limited to:

- **Artificial intelligence (AI):** Artificial intelligence and philosophy, Automated reasoning and inference, Case-based reasoning, Cognitive aspects of AI, Commonsense reasoning, Constraint processing, Heuristic search, High-level computer vision, Intelligent interfaces, Intelligent robotics, Knowledge representation, Machine learning, Multi-agent systems, Natural language processing, Planning and theories of action, Reasoning under uncertainty or imprecision
- **Autonomous Systems:** Unmanned system command and control, Cooperative control of unmanned systems, Unmanned system modeling and simulation, Unmanned system dynamics, New concept unmanned systems, Robotic systems, Unmanned aerial vehicles
- **Networked Control Systems:** Coordinated control and estimation over networks, Control and computation over sensor networks, Control under communication constraints, Control and performance analysis issues, Synchronization of activities across a controlled network, Stability analysis of controlled networks, Analysis of networks as hybrid dynamical systems
- **Intelligent Control:** Adaptive control, Co-operative control, Intelligent systems, Discrete event systems, Multi-agent systems, Neural networks, Fuzzy systems, Control of biological systems
- **Automation:** Man-machine interactions, Process automation, Intelligent automation, Factory modeling and simulation, Home, laboratory and service automation, Network-based systems, Planning, scheduling and coordination, Nano-scale automation and assembly, Instrumentation systems, Biomedical instrumentation and applications, Building energy efficiency
- **Robotics:** Modeling and identification, Robot control, Mobile robotics, Mobile sensor networks, Perception systems, Micro robots and micro-manipulation, Visual servoing, Search, rescue and field robotics, Robot sensing and data fusion, Localization, navigation and mapping, Dexterous manipulation, Medical robots and bio-robotics, Human centered systems, Space and underwater robots, Tele-robotics, Mechanism design and applications.
- **Emerging Technologies:** Internet of things, Cyber-physical systems, Smart buildings, Smart grid, Energy management systems, Big data, Electric vehicles and intelligent transportation.
Welcome and look forward to receiving your contributions and attendance to the ISAS 2019!

STEERING COMMITTEE:
Frank L. Lewis, University of Texas at Arlington, USA
Hailong Pei, South China University of Technology, China
Yongduan Song, Chongqing University, China
Ning Li, Shanghai Jiao Tong University, China
Kimon P. Valavanis, Denver University, USA
Youmin Zhang, Concordia University, Canada
Tianyou Chai, Northeastern University, China

HONORARY CHAIR:
Frank Lewis, U of Texas at Arlington, lewis@uta.edu

GENERAL CHAIRS:
Yongduan Song, Chongqing University, ydsong@cqu.edu.cn
Xinping Guan, Shanghai Jiao Tong University, xpguan@sjtu.edu.cn

PROGRAM CHAIRS:
Changyun Wen, Nanyang technological University, ecywen@ntu.edu.sg
Cailian Chen, Shanghai Jiao Tong University, cailianchen@sjtu.edu.cn

5.9. **International Conference of Intelligent Unmanned System**
Contributed by: Youmin Zhang, Youmin.Zhang@concordia.ca

Call-for-Papers: The 15th International Conference of Intelligent Unmanned System (ICIUS 2019),
August 27-29, 2019, Beijing (http://icius2019.org/)

On behalf of the ISAS 2019 Organizing Committee, this is to invite you to submit your contributions to The 15th International Conference of Intelligent Unmanned System (ICIUS 2019), to be held on August 27-29, in the Techart Plaza which is situated in a famous location in the heart of Beijing.

The ICIUS 2019 is organized by the International Society of Intelligent Unmanned System (ISIUS) and Univ. Sci. and Tech. Beijing, China, and technically co-sponsored by the ISIUS, IEEE SMC (Beijing) and ISME (Taiwan). The ICIUS 2019 offers a unique and interesting platform for scientists, engineers and practitioners throughout the world to present and share their most recent research and innovative ideas in the areas of unmanned systems, robotics, automation, and intelligent systems.

The topics of interests include, but are not limited to:
- Unmanned Systems: Micro air vehicle, Micro-satellite, Unmanned aerial vehicle, Underwater vehicle, Multi-agent systems, Autonomous ground vehicle, Blimp, Swarm intelligence
- Robotics and Biomimetics: Artificial muscle actuators, Smart sensors, Design and applications of MEMS/NEMS system, Intelligent robot systems, evolutionary algorithm, Control of biological systems, Biological learning control systems, Neural networks, Bioinspired systems
- Control and Computation: Distributed and embedded systems, Complex systems, Embedded intelligent control, Pervasive computing, Soft computing, Discrete event systems, Hybrid systems, Networked control systems, Delay systems, Identification and estimation, Nonlinear systems, Precision motion control, Control applications, Control engineering education, Computer Architecture & VLSI, Signal, image and multimedia processing
- Intelligent Systems: Ubiquitous computing, Algorithms, Distributed intelligence, Distributed/decentralized intelligent control, Fuzzy systems, AI and expert systems, Virtual reality, Wearable computers, Information systems and retrieval, Software engineering, Knowledge data engineering, Data communications and compression
- Space Robots: Aircraft flight dynamics and control, Space navigation and guidance, Spacecraft cooperative and control, Real-time distributed simulation, Orbital servicing technology in space, Traffic management and controls

INVITED SESSIONS:
The conference will feature invited sessions on new topics and innovative applications. These sessions will consist of 5-8 articles and undergo a regular review process. Prospective organizers should include a brief statement of purpose for the session as well as the abstracts of the papers.

ORGANIZED SESSIONS:
The conference organizing committee encourages participants to host multiple sessions, which address specific topics of high current interest related to various aspects of ICIUS. Each Organized Session should include at least five presentations in principle. Submit your proposal(s) to online by February 1, 2019. The results for acceptance will be notified by March 1, 2019.

IMPORTANT DATES:
- Abstract submission — March 1, 2019
- Full paper submission — May 1, 2019
- Acceptance notification — June 1, 2019
- Final paper submission — June 31, 2019
- Early bird registration — July 7, 2019
- Hotel registration — July 7, 2019

STEERING COMMITTEE:
Muljowidodo, Institute of Technology Bandung
Kenzo Nonami, Chiba University
Kwang-Joon Yoon, Konkuk Univ.
Hoon Cheol Park, Konkuk Univ.

GENERAL CHAIRS:
Wei He, Univ. Sci. and Tech. Beijing
Lung-Jieh Yang, Tamkang Univ.

PROGRAM CHAIR: Youmin Zhang, Concordia

CONTACT:
6 Positions

6.1. PhD: University of Bath, UK  
Contributed by: Antonio De Paola, a.de.paola@bath.ac.uk

PhD position, Department of Electronic & Electrical Engineering, University of Bath
We are looking for a new PhD student for a research project on analytical methods for smart grid. The ideal candidate will have a background in control theory, game theory or applied mathematics. The PhD position is fully funded (fees + stipend) for any UK and EU citizen and more details can be found at these links:
- https://www.findaphd.com/search/ProjectDetails.aspx?PJID=102005,

For informal enquiries about the position, please contact Dr Antonio De Paola: a.de.paola@bath.ac.uk

6.2. PhD: University of Lorraine, France  
Contributed by: Morarescu Constantin, constantin.morarescu@univ-lorraine.fr

Topic: Synchronization of multi-agent systems with state-dependent topologies and two time-scales dynamics
Supervisors: Constantin Morarescu & Elena Panteley
Funding: full funding for 3 years via CEFIPRA project

The successful candidate must have a Master degree and good skills in Control Theory and/or Applied Mathematics, excellent English language skills. The application dossier has to be sent to constantin.morarescu@univ-lorraine.fr and consists of the following documents:
- detailed CV
- academic transcripts of all the exams taken and all the degrees obtained (in English or French)
- contact information of 1-2 references
- copy of the passport

6.3. PhD: University of Leicester, UK  
Contributed by: Andrea Lecchini-Visintini, alv1@leicester.ac.uk

PhD Studentship in Engineering - Interface with the Life Sciences
Modelling and estimation of physiological and pathological dynamics at the calyx of Held giant synapse
Dr Andrea Lecchini-Visintini (first supervisor)
Aerospace & Computational Engineering
Department of Engineering  
Professor Ian Forsythe and Dr Vincenzo Marra (co-supervisors)  
Molecular Neurophysiology Laboratory  
Department of Neuroscience, Psychology and Behaviour  
University of Leicester

Project Highlights:
- Modelling and estimation project in support of fundamental research on the functioning of neural synapses  
- Methodological research on the combination of modelling from first principles with system identification from experimental data  
- Close collaboration with a leading neuroscience laboratory generating experimental data and opportunity to contribute to the design of experiments

The ideal candidate will have a degree in Engineering, Physics, or Applied Mathematics and an interest in applying modelling and estimation techniques in the life sciences. A background in physiology and biochemistry is not required. Full advert: https://tinyurl.com/y7qzpjyy

The studentship offers a full UK/EU fee waiver for 3.5 years, an annual tax free stipend of £14,777 (2018/19), and a Research Training Support Grant (RTSG). This studentship is available to UK/EU applicants who meet the EPSRC Residency Criteria; if you have been ordinarily resident in the UK for three years you will normally be entitled to apply for a full studentship. EU students not meeting the residency criteria might have access to different funding options to be assessed on a case-by-case basis.

Informal enquiries should be directed to Dr Lecchini-Visintini alv1@leicester.ac.uk. The closing date for applications is Monday 21st January 2019.

6.4. PhD: University of Leicester, UK  
Contributed by: Andrea Lecchini-Visintini, alv1@leicester.ac.uk

PhD Studentship in Engineering  
Active Control of Wave Energy Converters - in collaboration with the College of Ocean Science and Technology in Dalian University of Technology

Dr Andrea Lecchini-Visintini (first supervisor) and Prof. Matt Turner (second supervisor)  
Aerospace & Computational Engineering  
Department of Engineering  
University of Leicester

Project Highlights:
- Development of control algorithms for improved efficiency of wave converters  
- Development of control algorithms allowing wave energy converter functionality in a variety of sea conditions (states)  
- Validation of the developed control algorithms on high-fidelity computational models and in the experimental wave tanks available at the College of Ocean Science and Technology in Dalian University of Tech-
Full advert: https://tinyurl.com/yd2b5kc2. For UK/EU applicants the studentship offers a full UK/EU fee waiver for 3.5 years, an annual tax free stipend of £14,777 (2018/19), and a Research Training Support Grant (RTSG). For International Applicants the studentship offers a full international fee waiver for 3.5 years, and a Research Training Support Grant (RTSG).

Informal enquiries should be directed to Dr Lecchini-Visintini alv1@leicester.ac.uk. The closing date for applications is Monday 21st January 2019.

6.5. PhD: PhD position at TU Berlin, Germany
Contributed by: Joerg Raisch, raisch@control.tu-berlin.de

In the context of the new Research Cluster “Science of Intelligence (SCIoI)”, a PhD position on “Distributed Learning Control for Collective Problem Solving in Multi-Agent Systems” will become available at TU Berlin. The successful candidate will use and extend methods from distributed and learning control theory to investigate the dynamics of collective learning. In particular, s/he will study (i) the interplay between prior knowledge, individual learning and knowledge transfer between agents, (ii) the relevance of the communication topology, and (iii) the effect of agent heterogeneity with respect to prior knowledge and learning strategies, dynamics and distortion of shared knowledge. More details can be found at https://www.scienceofintelligence.de/call-for-applications/open-positions/doctoral-project-distributed-learning-control-for-collective-problem-solving-in-multi-agent-systems.

Prerequisites:
Applicants must hold a Master’s degree (or equivalent) in Engineering, Applied Mathematics, or a related subject. In particular, we require the applicant to have (i) a strong background in systems and control theory (previous experience in distributed control theory or learning control theory is an advantage), (ii) a genuine interest to pursue interdisciplinary research that involves control theory and both robotic and biological applications, (iii) strong interdisciplinary communication and cooperation skills, (iv) excellent English skills, both written and spoken.

The appointment will be for 3 years. The PhD student will participate in the SCIoI doctoral program. As an employee of TU Berlin, s/he will receive a competitive salary and benefits (according to pay scale E13). The project will be supervised by Joerg Raisch and Thomas Seel from the Control Systems Group at TU Berlin. We expect the application deadline to be in late January or early February 2019. Applications can only be submitted through the online application tool at https://www.scienceofintelligence.de/.

6.6. PhD: Imperial College London, UK
Contributed by: Giordano Scarciotti, g.scarciotti@imperial.ac.uk

PhD in Control Theory, Imperial College London, United Kingdom
I am looking for 1 outstanding PhD student for the year 2019. Applications are invited for a PhD position in Control Theory in the area of uncertain nonlinear systems modeled by stochastic and/or set-valued mappings.

The application follows a two step procedure:
1) Applications are assessed by me. At this point I can offer a PhD position without scholarship.
2) I will put forward the successful applicant for a scholarship. The scholarship panel meets multiple times per year. The panel may grant or not the scholarship. Note that a studentship is assigned by the external panel on a highly competitive basis. Thus, in phase 1 I will shortlist the candidate who I believe has a high probability of obtaining the scholarship. Only candidates which can demonstrate the following will be considered:
- Be the top 1 or 2 of their cohort.
- Come from a university with a very good reputation.
- Have a strong background in control theory (perfect knowledge of the linear theory and exposure to some nonlinear topics) which is normally acquired in an MSc/MEng in Control/Automation/Robotics. Applications from students who are about to graduate are acceptable.

The work will be based within the Control and Power group in the Department of Electrical and Electronic Engineering.

Broad description of the project: Every model of a real system has some degree of uncertainty. A parameter of the model may be unknown, some dynamics may be unmodeled, or the model may be completely unknown. Uncertainty arises in, for example, power production (unpredictable renewable sources), power distribution (energy price/demand), control of aircrafts, and biological and chemical reactions. The project will tackle the problem of modelling, analysis and control of uncertain systems with two complementary approaches: stochastic differential equations allow to model randomness; set-valued mappings allow simultaneous modelling of multiple behaviours. Note that instead of considering a robust control approach, the objective of the project is to describe and deal with uncertainty within these two frameworks in a comprehensive manner.

For a description of the Control and Power Research Group please visit our website at http://www3.imperial.ac.uk/controlandpower. Informal enquiries and requests for additional information for this post can be made by email at g.scarciotti@imperial.ac.uk. Applications will be assessed as received and all applicants should follow the standard College application procedure (indicating Dr Giordano Scarciotti as supervisor) (http://www3.imperial.ac.uk/pgprospectus/howtoapply).

Closing date for applications: Open until filled Start Date: As soon as possible.

6.7. PhD: Clemson University, USA
Contributed by: Mohammad Naghnaeian, mnagha@clemson.edu

A PhD position is available in the Mechanical Engineering Department, Clemson University. The research lies in the broad area of control and optimization of cyber-physical systems. Students with strong mathematical background are encouraged to apply. A prior knowledge of real-analysis, functional analysis, and robust control is preferred. The students will also assist Dr. Naghnaeian in
a) performing fundamental control theoretic research on the security of controlled systems.
b) merging the robust control framework with the learning techniques from data to develop robust and real-time implementable data-driven control architectures.
c) setting up the cyber-physical security laboratory.

6.8. Postdoc: University of Texas at Austin, USA
Contributed by: Ufuk Topcu, utopcu@utexas.edu

Postdoctoral researcher positions in the Autonomous Systems Group at the University of Texas at Austin
We invite applications for one or more postdoctoral researcher positions available immediately—open until filled—at the University of Texas at Austin. The candidates are expected to conduct research at the intersection of formal methods, control theory and reinforcement learning with problems drawn from autonomy. They are expected to have background in at least one of these areas with willingness to grow out to the others during their postdoctoral research. The position offers exposure to a wide range of projects and flexibility for the candidate to shape his/her research portfolio in coordination with the supervisor.

The position is on a yearly basis and renewable for multiple years. The compensation will include a competitive salary and the University of Texas postdoctoral scholar benefits package.

The interested candidates should contact Ufuk Topcu by email at utopcu@utexas.edu with a curriculum vitae (including a list of publications), the contact information for 2-3 references, and a brief statement of research accomplishment and plans.

6.9. Postdoc: Westlake University, China
Contributed by: Shiyu Zhao, zhaoshiyu@westlake.edu.cn

The Intelligent Unmanned Systems Lab at Westlake University in China is recruiting two postdoctoral researchers. The expected research areas include:
- Cooperative control and estimation of multi-agent systems, especially formation control and network localization; (priority)
- Guidance, navigation, and control of unmanned aerial vehicles (UAVs);
- Intelligent sensing systems of UAVs based on vision or other sensors.

We will provide internationally highly competitive salary and research facilities. The positions are expected to start in the spring or summer of 2019. Applicants should have extensive research experience in the corresponding research area.

Applications should be sent to zhaoshiyu@westlake.edu.cn. In the email, please include a cover letter, a detailed CV, and representative research papers. Only shortlisted candidates will be notified for interview. The application closes when the positions are filled.

Westlake University is a new but high-standard university located in the beautiful and vigorous city of Hangzhou in China. The Intelligent Unmanned Systems Lab at Westlake University focuses on cutting-edge research in the area of intelligent and networked unmanned aerial vehicles.

6.10. Postdoc: University of California in Santa Cruz, California, USA
Contributed by: Ricardo Sanfelice, ricardo@ucsc.edu

A Postdoctoral Scholar position is available at the Hybrid Systems Laboratory at the Department of Computer Engineering, University of California in Santa Cruz, California.

The research focus of this position is the generation of design tools for estimation and control of hybrid dynamical systems. Expertise in nonlinear and hybrid control, model predictive control, formal methods, and observer design will be key. The results will have applications to a wide range of hybrid and cyber-physical systems, such as autonomous vehicle systems and power systems.

Candidates with a Ph.D. in engineering or applied math, with a strong theoretical background and required expertise are encouraged to apply by submitting via email (to Prof. Ricardo Sanfelice at ricardo@ucsc.edu)
the following: 1) a cover letter, 2) a detailed curriculum vitae, including educational background and a list of publications, 3) two publications representing the candidate’s research work, and 4) contact information for at least two academic references.

Review of applications will start on March 1, 2019. Though flexible, the suggested start date for the position is July 1, 2019 and for a duration of one year, renewable depending on performance.

More information about the research at the Hybrid Systems Laboratory is available at https://hybrid.soe.ucsc.edu. The University of California at Santa Cruz also houses the newly established Cyber-Physical Systems Research Center (https://cps.ucsc.edu) which brings together more than 30 faculty with interest in numerous areas, including networking, sensors, robotics, and control.

---

**6.11. Postdoc: TU Berlin, Germany**

Contributed by: Joerg Raisch, raisch@control.tu-berlin.de

In the context of the new Research Cluster “Science of Intelligence (SCIoI)”, a postdoctoral position will become available at TU Berlin for a project on “Architectural design principles for intelligence”. This project will study how architectural design principles affect performance of an intelligent system. We will focus on the tradeoff between modularity and integration and compare this between a biological system (the human brain) and a synthetic system (a computational model). A key question is how the modularity of a cognitive system can be optimized for the tasks it has to solve. The postdoctoral researcher will develop control-theoretic methods for optimizing visual network models. S/he will closely interact with another postdoctoral researcher focusing on graph-theoretical analysis of functional connectivity of the brain. The control theoretic project part will be jointly supervised by J. Raisch and H. Sprekeler. Details on the project can be found at https://www.scienceofintelligence.de/call-for-applications/open-positions/postdoctoral-project-architectural-design-principles-for-intelligence-modularity-vs-integration-synthetic.

**Prerequisites:**

Applicants must hold a Diploma/Master’s degree and a PhD in a highly quantitative field (e.g., computer science, mathematics, physics, engineering or related natural sciences) and must have excellent mathematical skills, excellent programming skills, excellent English skills both written and spoken, and a keen interest in intelligence research within an interdisciplinary and highly collaborative research team. The ideal candidate holds a PhD in machine learning or control theory and has a strong background in training recurrent artificial neural networks.

The appointment will be for 3 years. As an employee of TU Berlin, s/he will receive a competitive salary and benefits (according to pay scale E13). We expect the application deadline to be in late January or early February 2019. Applications can only be submitted through the online application tool at https://www.scienceofintelligence.de/.

---

**6.12. Postdoc: Sydney University, Australia**

Contributed by: Ian Manchester, ian.manchester@sydney.edu.au

Sydney University has three open post-doc positions in control, robotics, and related fields. Base salary is $92k-$123k (AUD) plus generous benefits. These positions are open through two separate calls, candidates are welcome to apply to both and must do so in order to be considered for both:
a) Two post-doc positions are available for up to 2 years in all areas of robotics/control, but particularly seeking strong candidates in imaging, perception, manipulation and locomotion, or distributed control systems. Application deadline 13th of January 2019 More info: http://bit.ly/CRISpostdoc19


6.13. Postdoc: University of Michigan, USA
Contributed by: Ilya Kolmanovsky, ilya@umich.edu

A postdoctoral research fellow position is open in the department of aerospace engineering at the University of Michigan, Ann Arbor, Michigan in model predictive and/or stochastic control for autonomous vehicles.

The position entails conducting research into theory and enhanced algorithms for model predictive control, dynamic optimization and stochastic control, with primary applications in the area of self-driving cars. Secondary applications in other domains such as spacecraft control, integrated propulsion and power management, and flexible aircraft control may also be considered.

The preferred candidate will have a Ph.D. and strong background and interest in model predictive and/or stochastic control and in control applications to autonomous vehicles and systems.

The position is initially for one year, and renewable for subsequent years depending on research progress and availability of funds. If interested (or for inquiries), please submit your CV and the names and email addresses of two references to Professor Ilya Kolmanovsky at ilya@umich.edu.

6.14. Postdoc: University of Kansas, USA
Contributed by: Huazhen Fang, fang@ku.edu

Applications are cordially invited for a postdoctoral research fellow position in the Information & Smart Systems Laboratory (www.issl.space) at the University of Kansas. The position is expected to start between April and May 2019, with the exact start date negotiable. The research project will be concerned with fundamental estimation theory and machine learning. A background in the broad areas of machine learning, deep learning, estimation, signal processing, mathematics, and control will be desirable.

A successful candidate should have the following qualifications: a recent PhD degree with thesis research on machine learning, data science, estimation theory, control systems, mathematics or related subjects, solid mathematical skills, excellent programming (Matlab, TensorFlow, or Python) skills, excellent oral and written communication skills, and strong motivation to perform outstanding research.

The appointment is for one year, with possible extension contingent on availability of funds and research performance. The salary will be in accordance with the postdoctoral salary scale of the University of Kansas. Interested candidates can feel free to contact Dr. Huazhen Fang (fang@ku.edu) for further information and are encouraged to send: a curriculum vitae detailing research achievements, a list of three referees, and up to three research documents (e.g., thesis, journal articles, conference papers).
6.15. Research Engineer: Scania, Sweden
Contributed by: Burak Demirel, burak.demirel@scania.com

Research Engineer in Autonomous Motion for Autonomous Transport Solutions

Are you a curious, dedicated and responsible person that believe leading the way towards sustainable transport solutions would be exciting? At Autonomous Transport Solutions (ATS) Pre-Development & Research, Scania R&D, we pursue top-quality research and development of future cutting edge ATS concepts. We operate in agile and self-steered teams that work in close cooperation with the Volkswagen group, leading technology suppliers, and academic institutions, with the ambition to detect and evaluate upcoming technologies. Our culture is built based upon delivering added customer value through research and practical experiments that iteratively lead to concepts for industrialization. Does this sound like an interesting technical area? Then send us your application and we will be happy to give you a more detailed explanation.

Your responsibilities:

You will be working in an agile multi-cultural research team within R&D. The team is responsible for concept evaluation and software development of tactical decision-making and situational awareness algorithms for autonomous driving. The success factor of our team is the iterative development and the rapid prototyping enabled by a flexible platform for the autonomous vehicles. As a Research Engineer you contribute to design, develop and evaluate strategies for understanding and predicting the environment evolution in order to enable smart decisions in a variety scenarios.

Your profile:

We like people that are team players, attentive and humble with the ability to drive the technical development forward. You have technical experience in the areas of applied mathematics, computational statistics and/or machine learning. More specifically, you will be involved in the methodological development of new probabilistic models and inference methods to address the current and future challenges within situational awareness.

Extra meritorious is

- An academic background that matches an M.Sc. in applied mathematics, machine learning, engineering physics, computer science, electrical engineering, robotics or matching work experience.
- A Ph.D. within similar research fields.
- Experience in one or more of the following: bayesian modelling, inference algorithms, probabilistic black-box modelling, sampling algorithms, variational methods, particle filters, dynamic programming, graph search techniques.
- Knowledge and experience within software languages such as C++ and Matlab/Simulink along with a keen interest in programming.
- Experience within agile development and robotic systems.
- If you are fluent in English both in writing and in speech.

We offer:

As an employee at Scania we offer, in addition to career development, other benefits like a company car, result-based bonus, service pension, flexible working hours, subsidised lunches and a lot more. If you live in Stockholm, we offer a direct bus between Stockholm and Södertälje through the Scania jobexpress. For additional information: Please contact Assad Alam, 08-553 896 41.
Your application:
Apply via our homepage: www.scania.com/jobs at Scania latest by January 20. Job id 20184301. Interviews will be conducted continuously during the application period. Your application should include a cover letter, CV and copies of your education certificate.

About the job:
Title: Research Engineer in Autonomous Motion (ECPM) for Autonomous Transport Solutions
Business area: Research and Development
Country: Sweden
City: Sodertalje
Last application date: 2019-01-20
Job Id: 20184301

About Scania
Scania is a world-leading provider of transport solutions. Together with our partners and customers we are driving the shift towards a sustainable transport system. In 2017, we delivered 82 500 trucks, 8 300 buses as well as 8 500 industrial and marine engines to our customers. Net sales totalled nearly SEK 120 billion, of which about 20 percent were services-related. Founded in 1891, Scania now operates in more than 100 countries and employs some 49 000 people. Research and development are concentrated in Sweden, with branches in Brazil and India. Production takes place in Europe, Latin America and Asia, with regional production centres in Africa, Asia and Eurasia. Scania is part of Traton Group. For more information visit www.scania.com.

6.16. Research Scientist: University of Michigan, USA
Contributed by: Dawn Tilbury, tilbury@umich.edu

Research Scientist in Manufacturing Robotics and Control at the University of Michigan
We are looking to hire a research scientist with a specialization in manufacturing robotics and control. The ideal candidate will have at least 10 years of experience in the manufacturing (preferably automotive) industry and can provide industry-based perspectives and mentoring to the graduate students in our Smart Manufacturing research group at the University of Michigan, Mechanical Engineering Department. Additionally, this individual should have significant experience interacting with academic and/or industry research. The appointment may be part-time (50% effort) and includes the following responsibilities: Aid in project management for several on-going research projects in Smart Manufacturing; Provide guidance and industry perspective to the graduate students; Support industry relationships; Help write new proposals. Interested candidates should send a cover letter and CV/resume to Prof. Tilbury tilbury@umich.edu and Prof. Barton Bartonkl@umich.edu.

6.17. Faculty: University of Twente, Enschede, The Netherlands
Contributed by: Ronald Aarts, R.G.K.M.Aarts@utwente.nl

Position “Assistant Professor in Control in Mechanical Engineering” available at University of Twente, Enschede, The Netherlands.
The Department of Mechanics of Solids, Surfaces & Systems (MS3) at the Faculty of Engineering Technology of the University of Twente (UT) is currently seeking for an Assistant Professor in Control in Mechanical Engineering, who will be hosted by the research group Structural Dynamics, Acoustics & Control. 


6.18. Faculty: Texas A&M University, USA
Contributed by: Reza Langari, rlangari@tamu.edu

Assistant, Associate or Full Professor – Multidisciplinary Engineering Technology Program (Mechatronics)

The Department of Engineering Technology and Industrial Distribution at Texas A&M University invites applications for a tenured or tenure-track faculty position at the assistant, associate, or full professor level with expertise in one or more of the following areas: Mechatronics, Industrial and Mobile Robotics, Automation, Product Design, Industrial Internet of Things (IIoT), Cyber-Physical Systems, and Embedded Systems. The successful applicant will be required to teach; advise and mentor undergraduate and graduate students; develop an independent, externally funded research program; participate in all aspects of the department’s activities; and serve the profession.

Strong written and verbal communication skills are required. Preference will be given to candidates with recent and relevant hands-on experience with applied research and technology development in robotics and automation, academic leadership experience and/or experience with ABET and accreditation processes. Applicants should consult the department’s website to review our academic and research programs (https://engineering.tamu.edu/etid). Applicants must have an earned doctorate in an appropriate engineering field and/or a closely related engineering or science discipline.

Applicants should submit a cover letter, curriculum vitae, teaching statement, research statement, and a list of four references (including postal addresses, phone numbers and email addresses) to apply for this specific position at www.tamengineeringcareers.org. Full consideration will be given to applications received by February 15, 2019. Applications received after that date may be considered until the position is filled. It is anticipated the appointment will begin Fall 2019.

The members of Texas A&M Engineering are all Equal Opportunity/Affirmative Action/Veterans/Disability employers committed to diversity. It is the policy of these members to recruit, hire, train and promote without regard to race, color, sex, religion, national origin, age, disability, genetic information, veteran status, sexual orientation or gender identity.

Reza Langari, Ph.D., Professor
JR Thompson Department Head Chair
Engineering Technology and Industrial Distribution (ETID)
Texas A&M University
College Station, TX 77843-3367
979-845-4949 (office)
979-847-9396 (fax)
979-571-8498 (cell)
rlangari@tamu.edu
6.19. Faculty: University of Oxford, UK
Contributed by: Stephen Duncan, stephen.duncan@eng.ox.ac.uk

We have an opening for a Departmental Lecturer in Control Engineering in the Department of Engineering Science at the University of Oxford, UK. More details are available at https://www.jobs.ac.uk/job/BOI006/departmental-lecturer-in-control-engineering

6.20. Faculty: KTH Royal Institute of Technology, Sweden
Contributed by: Bo Wahlberg, bo@kth.se

Assistant Professor in Intelligent Systems with specialization in Machine Learning at KTH Royal Institute of Technology
The School of Electrical Engineering and Computer Science at KTH Royal Institute of Technology, Stockholm, Sweden invites applications for two newly created positions as assistant professor in Intelligent Systems with specialization in Machine Learning supported by the Wallenberg AI, Autonomous Systems and Software Program (WASP), a 10 year research program funded by the Knut and Alice Wallenberg Foundation. For more information see https://www.kth.se/en/om/work-at-kth/lediga-jobb/whatjob/jobID:231234/where:4/

6.21. Faculty: Australian National University, Canberra, Australia
Contributed by: Ian Petersen, ian.petersen@anu.edu.au

Academic Level B (Lecturer) $AUD 98,009–$AUD 111,365, C (Senior Lecturer) $AUD 118,044–$AUD 131,402, and D (Associate Professor) $AUD 141,416–$AUD 150,324 plus 17% superannuation.

We are currently seeking applications from enthusiastic early to mid-career academics who have the potential and deep commitment to help define the future of their discipline. You will have the opportunity to present a ground-breaking vision for your research and education, and their importance to the future of engineering. Applications are particularly invited from researchers whose interests are in the broad area of Electrical Engineering, whose breadth of vision reaches across traditional discipline silos, includes strong links with external organisations and industry, and is synergistic with the existing research groups within the School.

The positions will be located in the Research School of Engineering which is one of two Research Schools within the ANU College of Engineering and Computer Science (CECS). This is an exciting time to join our School and be part of a community that prides itself on solving “wicked problems” in collaboration with the best minds in the world from across a broad range of disciplines. We take pride in pursuing our fundamental mission – discovery and making knowledge matter – to the very highest quality.
For further information and to apply please follow the link: http://jobs.anu.edu.au/cw/en/job/525620/lecturersenior-lecturerassociate-professor